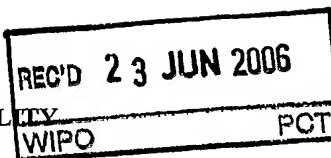


PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)



Applicant's or agent's file reference 299.34	FOR FURTHER ACTION	See Form PCT/IPEA/416																								
International application No. PCT/US04/33094	International filing date (day/month/year) 07 October 2004 (07.10.2004)	Priority date (day/month/year) 07 October 2003 (07.10.2003)																								
International Patent Classification (IPC) or national classification and IPC IPC: G09G 5/00(2006.01), 5/08(2006.01) USPC: 345/156, 157, 160, 163, 164, 165, 166, 184																										
Applicant GILES, SUSAN L.																										
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>12</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p style="margin-left: 20px;">a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>5</u> sheets, as follows:</p> <div style="margin-left: 40px;"> <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. </div> <p style="margin-left: 20px;">b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>																										
<p>4. This report contains indications relating to the following items:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 10%;"><input checked="" type="checkbox"/></td> <td style="width: 20%;">Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>			<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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Date of submission of the demand 02 August 2005 (02.08.2005)	Date of completion of this report 04 May 2006 (04.05.2006)																									
Name and mailing address of the IPEA/ US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Authorized officer Jeff Piziali Telephone No. (571) 272-3050																									

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/US04/33094

Box No. I Basis of the report

1. With regard to the language, this report is based on:

- ☐ the international application in the language in which it was filed.
- ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4(a))
- ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☐ the international application as originally filed/furnished
- ☒ the description:
pages 1-14 as originally filed/furnished
pages* NONE received by this Authority on _____
pages* NONE received by this Authority on _____
- ☒ the claims:
pages NONE as originally filed/furnished
pages* NONE as amended (together with any statement) under Article 19
pages* 15-19 received by this Authority on 02 August 2005 (02.08.2005)
pages* NONE received by this Authority on _____
- ☒ the drawings:
pages 1/4-4/4 as originally filed/furnished
pages* NONE received by this Authority on _____
pages* NONE received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs. _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs. _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/US04/33094**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****I. Statement**

Novelty (N)	Claims <u>3-10 and 13-19</u>	YES
	Claims <u>1, 2, 11, 12, and 20</u>	NO
Inventive Step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-20</u>	NO
Industrial Applicability (IA)	Claims <u>1-20</u>	YES
	Claims <u>NONE</u>	NO

2. Citations and Explanations (Rule 70.7)
Please See Continuation Sheet

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

V. 2. Citations and Explanations:

1. Claims 1, 2, 11, 12, and 20 lack novelty under PCT Article 33(2) as being anticipated by US 6,567,073 B1 (LEVIN).

Regarding claim 1, Levin discloses a computer mouse system for use with a computer application program comprising: a computer mouse [figure 2, 60] having: a body; a position sensing mechanism [i.e. ball transducer] mounted within the body; a left mouse button [figure 2, 64] that is actuated by a force applied to a surface of the left button; and a right mouse button [figure 2, 66] that is actuated by a force applied to a surface of the right button (see column 3, line 49 - column 5, line 3); and a mouse driver that generates a left button user interface signal and a transmits the signal to the computer application program when the right button is actuated, or when the left and right buttons are actuated simultaneously (see column 5, lines 4-63 -- wherein during Levin's switched mode of operation, the right button switches on/off the left button computer function) and does not produce a right button user interface signal when the right button is actuated, or when the left and right buttons are actuated simultaneously (see column 5, line 64 - column 6, line 24 -- wherein during Levin's switched mode of operation, a right button user interface signal is only produced when the left button is actuated).

Regarding claim 2, Levin discloses a computer readable disc which contains the computer code for the mouse driver (see column 4, line 39 - column 5, line 24).

Regarding claim 11, Levin discloses a driver switching program [figure 2, 50] on the computer that responds to a mode control signal by switching the mouse driver to a normal mouse driver that generates a right button user interface signal and transmits the signal to the computer application program when the right mouse button is actuated (see column 4, line 56 - column 5, line 63).

Supplemental Box

Regarding claim 12, Levin discloses a computer mouse [figure 2, 60] for use with a computer application program comprising: a body; a position sensing mechanism [i.e. ball transducer] mounted within the body; a left mouse button [figure 2, 64], having a top surface and a left button switch; a right mouse button [figure 2, 66] (see column 3, line 49 - column 5, line 3), having a top surface and a right button switch that is shorted [figure 2, 50] to the electrical output of the left button switch such that the computer mouse transmits a left button actuation signal to the computer when the right button switch is actuated, the left button switch is actuated or the left button switch and the right button switch are actuated simultaneously (see column 5, lines 4-63 -- wherein during Levin's switched mode of operation, the right button switches on/off the left button computer function); wherein the mouse does not transmit a right button actuation signal to the computer when the right button switch is actuated, the left button switch is actuated or the left button switch and the right button switch are actuated simultaneously (see column 5, line 64 - column 6, line 24 -- wherein during Levin's switched mode of operation, a right button user interface signal is only produced when the left button is actuated).

Regarding claim 20, Levin discloses a mode switch [figure 2, 50] connected to the right button that disconnects the right button switch from the left button switch such that a right button signal is transmitted to the computer when the right button is actuated (see column 4, line 56 - column 5, line 63).

2. Claims 3-10 and 13-19 lack an inventive step under PCT Article 33(3) as being obvious over US 6,567,073 B1 (LEVIN) in view of US 6,323,843 B2 (GILES et al).

Regarding claim 3, Levin does not expressly disclose button hinges. However, Giles does disclose a left hinge [figure 2A, 117] that connects a left button [figure 2A, 105] to a mouse [figure 2A, 103] located proximate the top center of the mouse and a right hinge [figure 2A, 127] that connects a right button [figure 2A, 125] to the mouse located proximate the top center of the mouse; wherein the left button is only connected to the mouse body at the left hinge and the right button is only connected to the mouse body at the right hinge (see column 3, line 65 - column 4, line 5). Levin and Giles are analogous art because they are from the shared inventive field of computer mice with left and right buttons. Therefore, it would have been obvious to one skilled in the art at the time of invention to combine Giles' button hinge structure with Levin's ambidextrous mouse control circuitry, so as to make it easy for users to actuate the mouse buttons.

Regarding claim 4, Levin does not expressly disclose a horizontal force applied to the left side of the left button actuates the left mouse button. However, Giles does disclose a left side of the left button is vertically angled and a horizontal force applied to the left side of the left button actuates the left mouse button (see column 3, lines 17-30). Therefore, it would have been obvious to one skilled in the art at the time of invention to combine Giles' button structure with Levin's ambidextrous mouse control circuitry, so as to make it easy for users to actuate the mouse buttons.

Regarding claim 5, Levin does not expressly disclose a horizontal force applied to the right side of the right button actuates the right mouse button. However, Giles does disclose a right side of the right button is vertically angled and a horizontal force applied to the right side of the right button actuates the right mouse button (see column 3, line 65 - column 4, line 5). Therefore, it would have been obvious to one skilled in the art at the time of invention to combine Giles' button structure with Levin's ambidextrous mouse control circuitry, so as to make it easy for users to actuate the mouse buttons.

Regarding claim 6, Levin does not expressly disclose a horizontal force applied to the front of the left button actuates the left mouse button. However, Giles does disclose a front surface of the left button is vertically angled and wherein a horizontal force applied to the front of the left button actuates the left mouse button (see column 3, lines 17-30). Therefore, it would have been obvious to one skilled in the art at the time of invention to combine Giles' button structure with Levin's ambidextrous mouse control circuitry, so as to make it easy for users to actuate the mouse buttons.

Regarding claim 7, Levin does not expressly disclose a horizontal force applied to the front of the right button actuates the right mouse button. However, Giles does disclose a front surface of the right button is vertically angled and a horizontal force applied to the front of the right button actuates the right mouse button and the right button is only connected to the mouse body at a right hinge located proximate the top center of the mouse (see column 3, line 65 - column 4, line 5). Therefore, it would have been obvious to one skilled in the art at the time of invention to combine Giles' button structure with Levin's ambidextrous mouse control circuitry, so as to make it easy for users to actuate the mouse buttons.

Regarding claim 8, Levin does not expressly disclose any horizontal force directed towards the mouse applied proximate the lower edge of the left mouse button actuates the left mouse button. However, Giles does disclose a lower edge of the left mouse button forms a continuous arc and any horizontal force directed towards the mouse applied proximate the lower edge of the left mouse button actuates the left mouse button and the left button is only connected to the mouse body at a left hinge located proximate the top center of the mouse (see column 3, lines 17-30). Therefore, it would have been obvious to one skilled in the art at the time of invention to combine Giles' button structure with Levin's ambidextrous mouse control circuitry, so as to make it easy for users to

Supplemental Box

actuate the mouse buttons.

Regarding claim 9, Levin does not expressly disclose any horizontal force directed towards the mouse applied proximate the lower edge of the right mouse button actuates the right mouse button. However, Giles does disclose a lower edge of the right mouse button forms a continuous arc and any horizontal force directed towards the mouse applied proximate the lower edge of the right mouse button actuates the right mouse button and the right button is only connected to the mouse body at a right hinge located proximate the top center of the mouse (see column 3, line 65 - column 4, line 5). Therefore, it would have been obvious to one skilled in the art at the time of invention to combine Giles' button structure with Levin's ambidextrous mouse control circuitry, so as to make it easy for users to actuate the mouse buttons.

Regarding claim 10, Levin does not expressly disclose when a first horizontal force is applied to a left side of the left mouse button and a second horizontal force is applied to a right side of the right mouse button simultaneously, both the left mouse button and the right mouse button are actuated. However, Giles does disclose a first horizontal force is applied to the left side of the left mouse button and a second horizontal force is applied to the right side of the right mouse button simultaneously, both the left mouse button and the right mouse button are actuated and the right button is only connected to the mouse body at a right hinge located proximate the top center of the mouse body and the left button is only connected to the mouse body at a left hinge located proximate the top center of the mouse body so that the left button and the right button can be squeezed together (see column 3, line 17 - column 4, line 5). Therefore, it would have been obvious to one skilled in the art at the time of invention to combine Giles' button structure with Levin's ambidextrous mouse control circuitry, so as to make it easy for users to actuate the mouse buttons.

Regarding claim 13, this claim is rejected by the reasoning applied to claim 3.

Regarding claim 14, this claim is rejected by the reasoning applied to claims 4 and 10.

Regarding claim 15, this claim is rejected by the reasoning applied to claims 5 and 10.

Regarding claim 16, this claim is rejected by the reasoning applied to claims 6 and 10.

Regarding claim 17, this claim is rejected by the reasoning applied to claim 7.

Regarding claim 18, this claim is rejected by the reasoning applied to claim 8.

Regarding claim 19, this claim is rejected by the reasoning applied to claim 9.

3. Claims 1, 2, 11, 12, and 20 also lack an inventive step under PCT Article 33(3) as being obvious over US 5,159,159 A (ASHER). As addressed above, the claims lack novelty, and therefore inherently lack an inventive step.

4. Claims 1-20 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

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What is claimed is:

1. A computer mouse system for use with a computer application program comprising:
 - (a) a computer mouse having:
 - a body;
 - a position sensing mechanism mounted within the body;
 - a left mouse button that is actuated by a force applied to a surface of the left button; and
 - a right mouse button that is actuated by a force applied to a surface of the right button; and
 - (b) a mouse driver that generates a left button user interface signal and transmits the signal to the computer application program when the right button is actuated, or when the left and right buttons are actuated simultaneously and does not produce a right button user interface signal when the right button is actuated, or when the left and right buttons are actuated simultaneously.
2. The computer mouse system of claim 1, further comprising:
 - a computer readable disc which contains the computer code for the mouse driver.
3. The computer mouse system of claim 1, further comprising:
 - a left hinge that connects the left button to the mouse located proximate the top center of the mouse and a right hinge that connects the right button to the mouse located proximate the top center of the mouse;wherein the left button is only connected to the mouse body at the left hinge and the right button is only connected to the mouse body at the right hinge.

PAT. US 7,330,304 A 02/03/2005

4. The computer mouse system of claim 1, wherein a left side of the left button is vertically angled and a horizontal force applied to the left side of the left button actuates the left mouse button.
5. The computer mouse system of claim 4, wherein a right side of the right button is vertically angled and a horizontal force applied to the right side of the right button actuates the right mouse button.
6. The computer mouse system of claim 1, wherein a front surface of the left button is vertically angled and wherein a horizontal force applied to the front of the left button actuates the left mouse button.
7. The computer mouse system of claim 1, wherein a front surface of the right button is vertically angled and a horizontal force applied to the front of the right button actuates the right mouse button and the right button is only connected to the mouse body at a right hinge located proximate the top center of the mouse.
8. The computer mouse system of claim 1, wherein a lower edge of the left mouse button forms a continuous arc and any horizontal force directed towards the mouse applied proximate the lower edge of the left mouse button actuates the left mouse button and the left button is only connected to the mouse body at a left hinge located proximate the top center of the mouse.
9. The computer mouse system of claim 1, wherein a lower edge of the right mouse button forms a continuous arc and any horizontal force directed towards the mouse applied proximate the lower edge of the right mouse button actuates the right mouse button and the right button is only connected to the mouse at a right hinge located proximate the top center of the mouse.
10. The computer mouse system of claim 1, wherein when a first horizontal force is applied to a left side of the left mouse button and a second horizontal force is applied to a right side of the right mouse button simultaneously, both the left

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mouse button and the right mouse button are actuated and the right button is only connected to the mouse body at a right hinge located proximate the top center of the mouse body and the left button is only connected to the mouse body at a left hinge located proximate the top center of the mouse body so that the left button and the right button can be squeezed together.

11. The computer mouse system of claim 1, further comprising:
 - a driver switching program on the computer that responds to a mode control signal by switching the mouse driver to a normal mouse driver that generates a right button user interface signal and transmits the signal to the computer application program when the right mouse button is actuated.
12. A computer mouse for use with a computer application program comprising:
 - a body;
 - a position sensing mechanism mounted within the body;
 - a left mouse button, having a top surface and a left button switch;
 - a right mouse button, having a top-surface and a right button switch that is shorted to the electrical output of the left button switch such that the computer mouse transmits a left button actuation signal to the computer when the right button switch is actuated, the left button switch is actuated or the left button switch and the right button switch are actuated simultaneously;wherein the mouse does not transmit a right button actuation signal to the computer when the right button switch is actuated, the left button switch is actuated or the left button switch and the right button switch are actuated simultaneously.

PATENT NO. 7,320,000

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13. The computer mouse of claim 12, further comprising:

a left hinge that connects the left button to the mouse located proximate the top center of the mouse and a right hinge that connects the right button to the mouse located proximate the top center of the mouse;
wherein the left button is only connected to the mouse at the left hinge and the right button is only connected to the mouse at the right hinge.

14. The computer mouse of claim 12, wherein the left side of the left button is vertically angled and a horizontal force applied to the left side of the left button actuates the left mouse button and the left button is only connected to the mouse at the left hinge and the right button is only connected to the mouse at the left hinge.

15. The computer mouse of claim 14, wherein the right side of the right button is vertically angled and a horizontal force applied to a right side of the right button actuates the right mouse button and the left button is only connected to the mouse body at the left hinge and the right button is only connected to the mouse at the right hinge so that the left button and the right button can be squeezed together.

16. The computer mouse of claim 12, wherein the front surface of the left button is vertically angled and wherein a horizontal force applied to the front of the left button actuates the left mouse button and the left button is only connected to the mouse at the left hinge and the right button is only connected to the mouse at the right hinge.

17. The computer mouse of claim 12, wherein the front surface of the right button is vertically angled and a horizontal force applied to the front of the right button actuates the right mouse button and the right button is only connected to the mouse at a right hinge located proximate the top center of the mouse.

18. The computer mouse of claim 12, wherein a lower edge of the left mouse button forms a continuous arc and any horizontal force directed towards the mouse

AMENDED SHEET

PATENT US 10,473,091 B2 2019-03-26

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applied proximate the lower edge of the left mouse button actuates the left mouse button and the left button is only connected to the mouse at the left hinge.

19. The computer mouse of claim 12, wherein a lower edge of the right mouse button forms a continuous arc and any horizontal force directed towards the mouse applied proximate the lower edge of the right mouse button actuates the right mouse button and the right button is only connected to the mouse at a right hinge located proximate the top center of the mouse and the left button is only connected to the mouse at a left hinge located proximate the top center of the mouse.
20. The computer mouse of claim 12, further comprising:
 - a mode switch connected to the right button that disconnects the right button switch from the left button switch such that a right button signal is transmitted to the computer when the right button is actuated.